

Appl. No.: 10/752,627  
Amtd. Dated June 14, 2005  
Reply to Office action of March 14, 2005

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-15 are now in the application. Claims 1-13 have been amended. Claims 14-15 have been added.

In item 2 on page 2 of the above-identified Office action, the abstract of disclosure has been objected to because it is not limited to a single paragraph. Appropriate correction has been made.

In items 3-6 on pages 2-3 of the above-identified Office action, claims 2 and 5-8 have been objected to because of informalities. Appropriate correction has been made.

In item 8 on page 3 of the above-identified Office action, claim 8 has been rejected as being indefinite under 35 U.S.C. § 112, second paragraph. Appropriate correction has been made.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, second paragraph. Should the Examiner find any further objectionable items, counsel would

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appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic and/or clarificatory reasons. The changes are neither provided for overcoming the prior art nor do they narrow the scope of the claims for any reason related to the statutory requirements for a patent.

In item 10 on pages 4-5 of the above-mentioned Office action, claims 1-6, 9-11, and 13 have been rejected as being anticipated by Tanaka et al. (US 5,943,639) under 35 U.S.C. § 102(b).

In item 12 on pages 6-7 of the above-mentioned Office action, claim 7 has been rejected as being unpatentable over Tanaka et al. in view of Farrow (US 5,793,243) under 35 U.S.C. § 103(a).

In item 13 on page 7 of the above-mentioned Office action, claim 12 has been rejected as being unpatentable over Tanaka et al. in view of Ishii et al. (EP 0 394 942 A2) under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

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Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, *inter alia*:

a sensor arrangement for recording values, said sensor arrangement producing at least two signals phase-shifted to one another as a continuous function, said signals being supplied to said measured value processor;

an adjustment unit being connected in series to said sensor arrangement, said adjustment unit adjusting amplitudes of said phase-shifted signals to one another and/or producing from said phase-shifted signals signals out of phase by about 90°, said produced signals being then evaluated and outputted for further processing.

It can be understood from column 3, lines 53-55 of Tanaka et al. that the deviation of 90° cannot exceed the measure resolution, for example 1 % = 10 Bit. In the calculation, the phase shifting is completely ignored. In other words, Tanaka et al. require an about 90° (smaller than the measure resolution) phase shifting of two sine signals (any amplitudes), the signal values of which are measured by certain cutting of a reference voltage and a correction value of a direct current amount is determined in a circuit device. The sine signal is modified with this direct current amount over a correction circuit device until the deficit of the acquired direct current amount is smaller than a permissible value.

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In contrast, in the invention of the instant application the adjustment unit adjusts the amplitudes (at least two) of the phase-shifted signals ( $<90^\circ$ ;  $90^\circ$ ;  $>90^\circ$ , namely independent of the phase shifting) to one another and/or brings the phase-shifted signals ( $<90^\circ$ ;  $>90^\circ$ ) into signals with a phase of about  $90^\circ$ , which are then evaluated and outputted for further processing.

Clearly, Tanaka et al. show "an adjustment unit being connected in series to said sensor arrangement, said adjustment unit adjusting amplitudes of said phase-shifted signals to one another and/or producing from said phase-shifted signals signals out of phase by about  $90^\circ$ , said produced signals being then evaluated and outputted for further processing," as recited in claim 1 of the instant application.

Farrow concerns a DC-stabilization for an operating amplifier. Farrow has nothing to do with the invention of the instant application.

Ishii et al. relate to an incremental encoder (see column 1, lines 20-25). It is to be emphasized that the invention of Ishii et al. concerns the accurate division of two unequal  $90^\circ$  ( $<90^\circ$ ;  $>90^\circ$ ) phase-shifted signals into accurate phase

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sections (0°, 45°, 90°, 135°, 180°) for incremental signals.

Ishii et al. nowhere mention different amplitudes and reference voltages of two sine wave signals.

In summary, none of the references discloses the important concept of the invention of the instant application as recited in claim 1, namely the adjustment of the amplitudes of two phase-shifted signals and/or production from the phase-shifted signals signals with about 90° phase difference, which are then evaluated and outputted for further processing.

Claim 1 is, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well. The added claims 14-15 are believed to be patentable as well since they are dependent on claim 1.

In view of the foregoing, reconsideration and allowance of claims 1-15 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

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If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

Yonghong Chen  
For Applicant

Yonghong Chen  
Reg. No. 56,150

YC

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Lerner and Greenberg, P.A.  
Post Office Box 2480  
Hollywood, FL 33022-2480  
Tel: (954) 925-1100  
Fax: (954) 925-1101